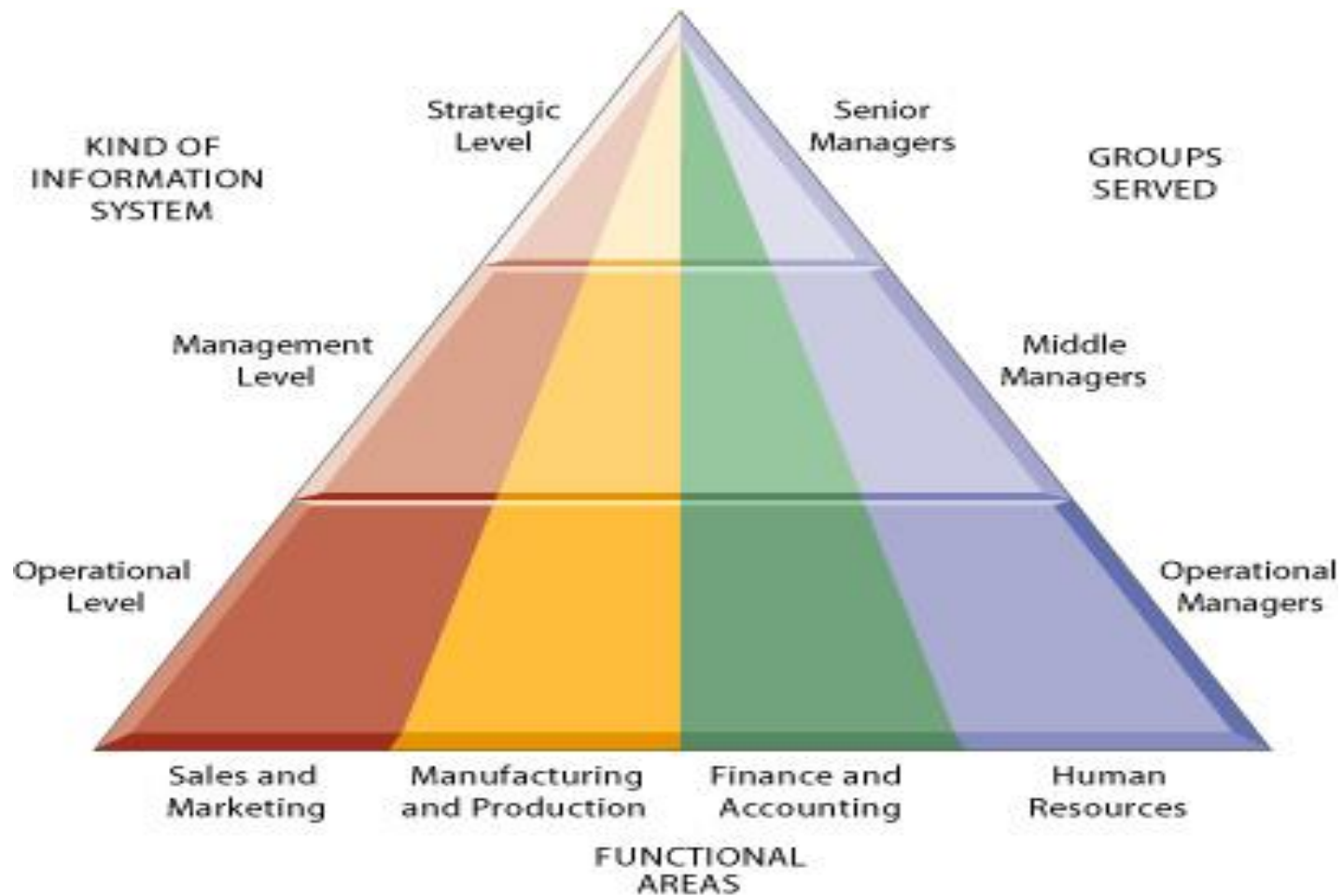# Kinds of IS

Kinds of IS

- Because there are different interests, subjects, and levels in an organization, there are different kinds of systems.

- No single system can provide all the information an organization needs

Fig

Different Kinds of Systems

- Operational-level systems.

- Management-level systems.

- Strategic-level systems.

Operational-level systems.

- Such as sales, receipts, cash deposits, payroll, credit decisions, and the flow of materials in a factory.
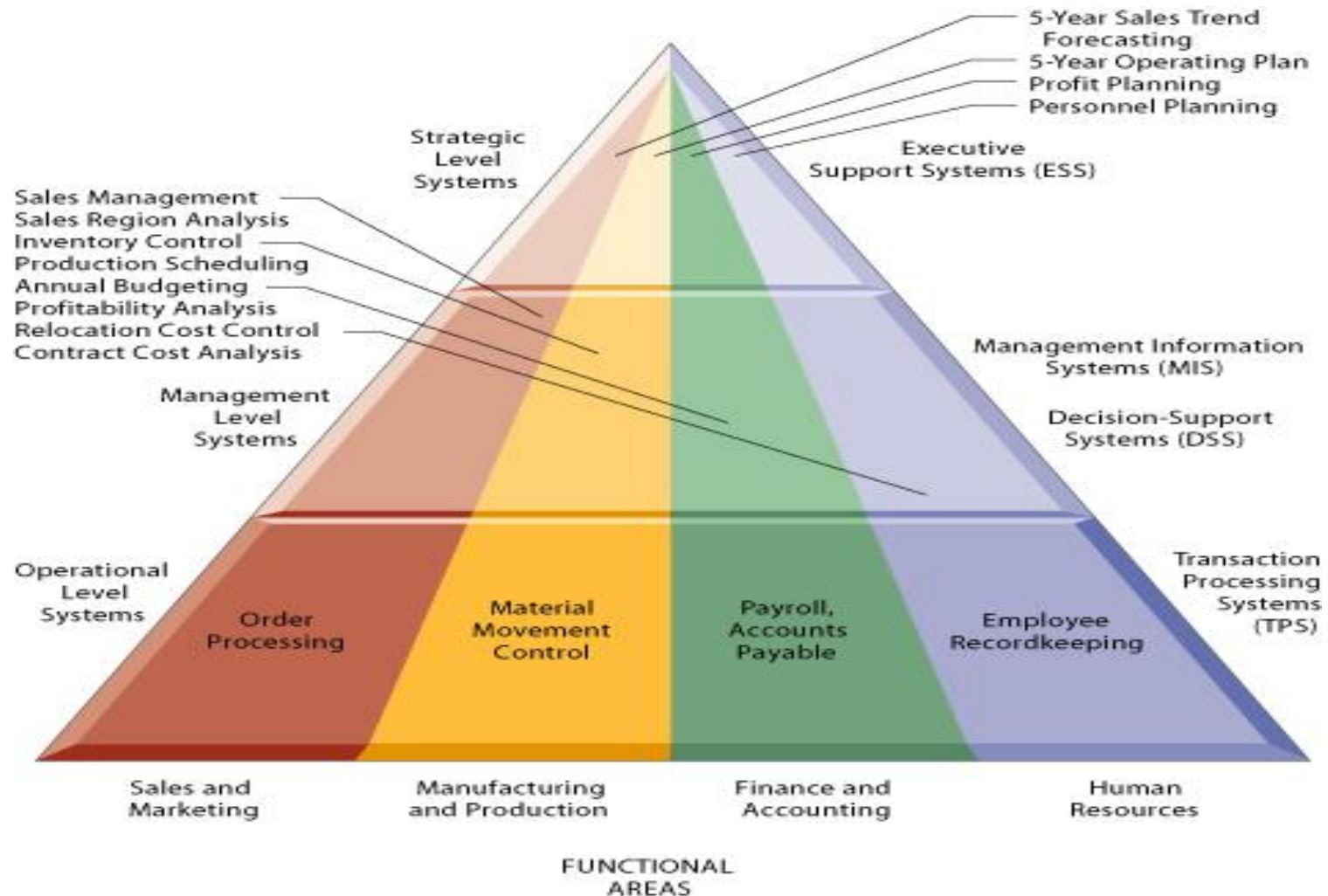
Management-level systems.

- Serve the monitoring, controlling, decision-making, and administrative activities of middle managers.

Strategic-level systems.

- Help senior management tackle and address strategic issues and long-term trends, both in the firm and in the external environment.

Four Major Kinds of Systems

5-Year Sales Trend Forecasting
5-Year Operating Plan
Profit Planning
Personnel Planning

Executive Support Systems (ESS)

Strategic Level Systems

Sales Management
Sales Region Analysis
Inventory Control
Production Scheduling
Annual Budgeting
Profitability Analysis
Relocation Cost Control
Contract Cost Analysis

Management Information Systems (MIS)

Decision-Support Systems (DSS)

Management Level Systems

Operational Level Systems

Order Processing

Material Movement Control

Payroll, Accounts Payable

Employee Recordkeeping

Transaction Processing Systems (TPS)

Sales and Marketing

Manufacturing and Production

Finance and Accounting

Human Resources

FUNCTIONAL AREAS

Type of System

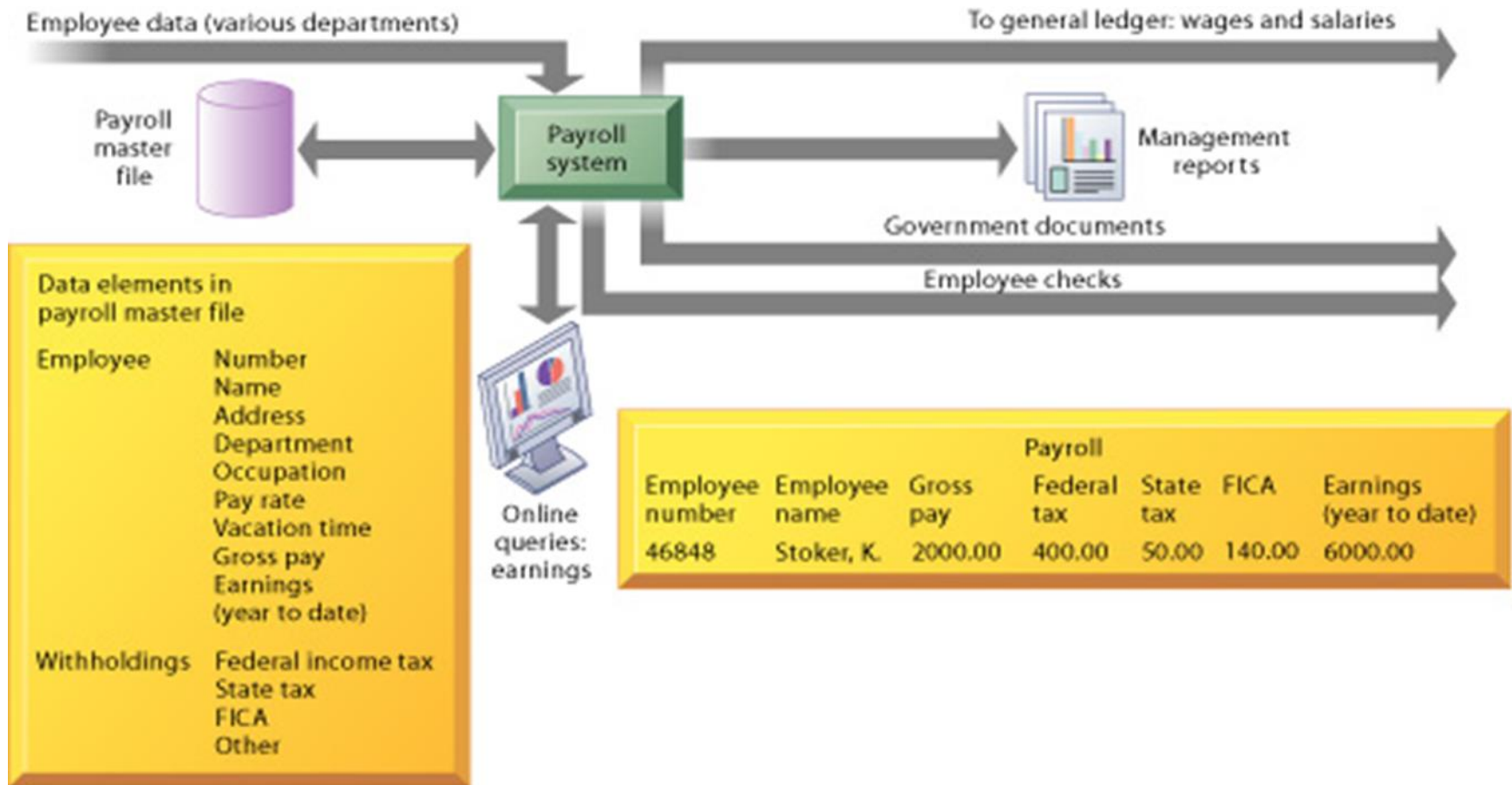| Type of System	Information Inputs	Processing	Information Outputs	Users
ESS	Aggregate data; external, internal	Graphics; simulations; interactive	Projections; responses to queries	Senior managers
DSS	Low-volume data or massive databases optimized for data analysis; analytic models and data analysis tools	Interactive; simlulations; analysis	Special reports; decision analyses; responses to queries	Professionals; staff managers
MIS	Summary transaction data; high-volume data; simple models	Routine reports; simple models; low-level analysis	Summary and exception reports	Middle managers
TPS	Transactions; events	Sorting; listing; merging; updating	Detailed reports; lists; summaries	Operations personnel; supervisors

TPS

Exchange between two or more business entities.
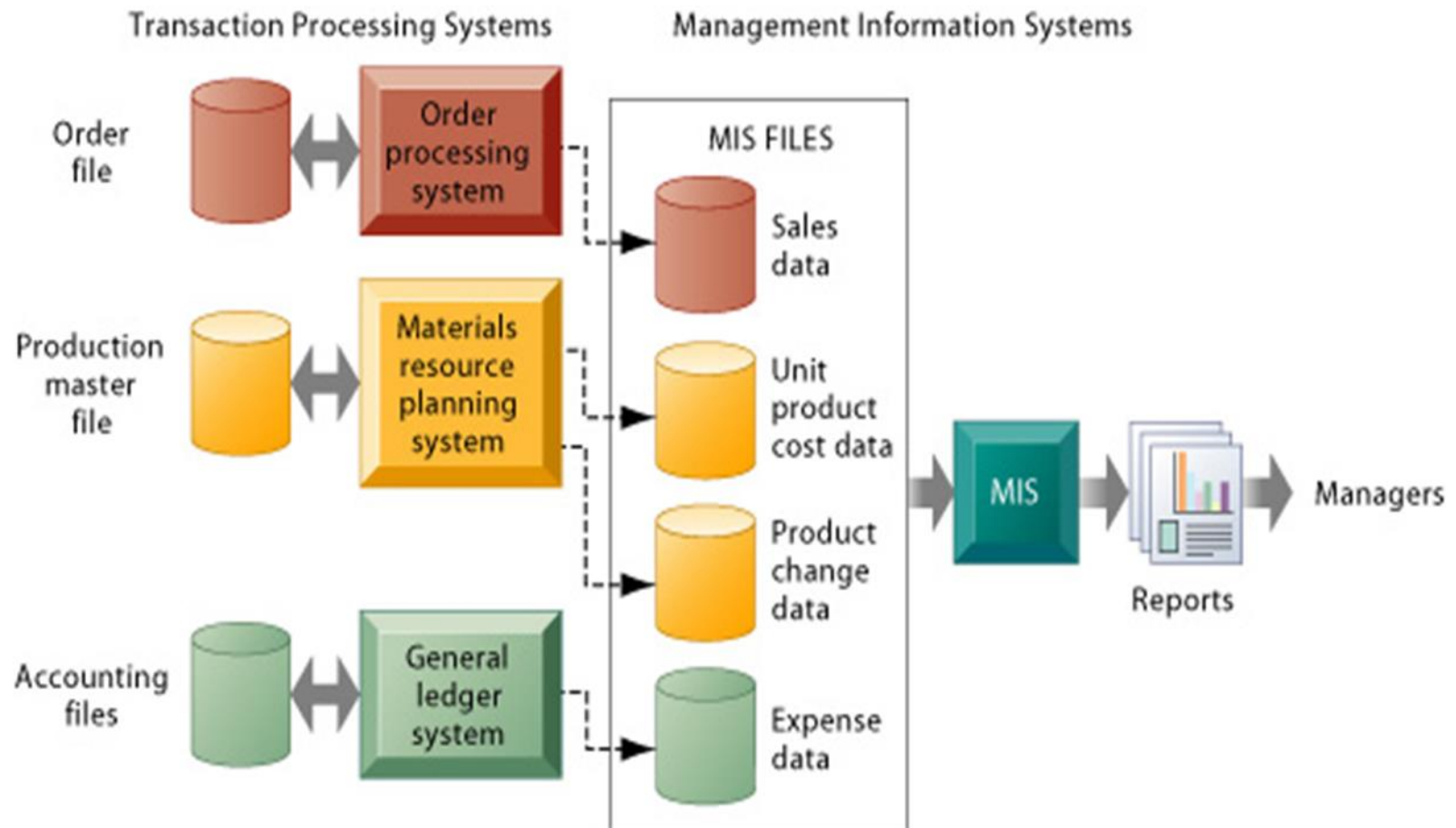
Data processing,

Like –

Sales, Production, Inventory, Shipping, Receiving, Billing, Accounts payable, Accounts receivables, Payroll, General ledger, etc.

Typical applications of TPS

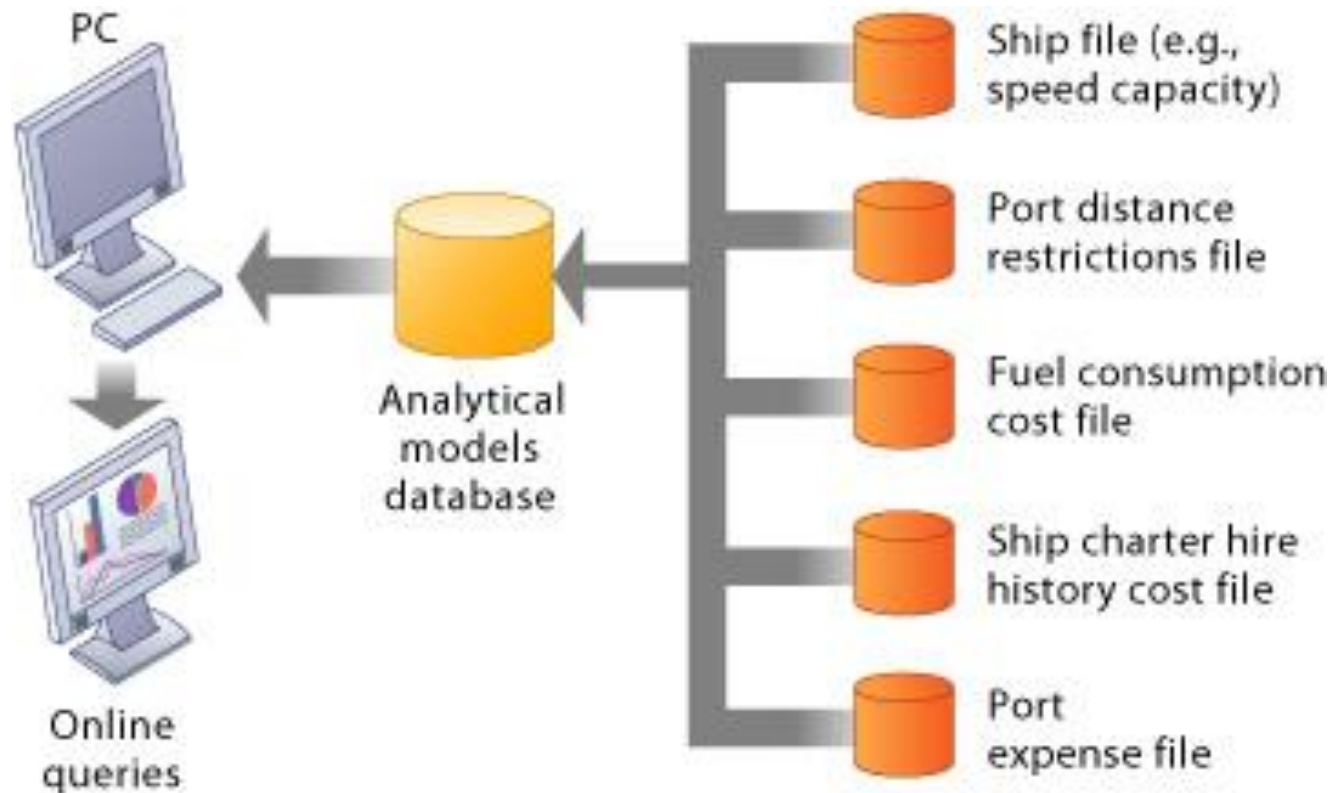| TYPE OF TPS SYSTEM					
	Sales/ marketing systems	Manufacturing/ production systems	Finance/ accounting systems	Human resources systems	Other types (e.g., university)
Major functions of system	Customer service Sales management Promotion tracking Price changes Dealer communications	Scheduling Purchasing Shipping/receiving Operations	General ledger Billing Cost accounting	Personnel records Benefits Compensation Labor relations Training	Admissions Grade records Course records Alumni records
Major application systems	Sales order information system Sales commission system Sales support system	Machine control systems Purchase order systems Quality control systems	General ledger Payroll Accounts receivable/payable Funds management systems	Employee records Benefit systems Employee skills inventory	Registration system Student transcript system Curriculum class control systems Alumni benefactor system

TPS With MIS

Transaction Processing Systems — Management Information Systems

Order file → Order processing system → MIS FILES: Sales data

Production master file → Materials resource planning system → Unit product cost data

Accounting files → General ledger system → Product change data / Expense data

MIS → Reports → Managers

DECISION-SUPPORT SYSTEMS

- Decision Support Systems are a class of computerized information systems that support decision-making activities. DSS are interactive computer-based systems and subsystems intended to help decision-makers.

DSS

- Decision-support systems (DSS) also serve the management level of the organization.

- They address problems where the procedure for arriving at a solution may not be fully predefined in advance. Although DSS use internal information from TPS and MIS, they often bring in information from external sources, such as current stock prices or product prices of competitors.

Ex: Voyage **estimating decision-support system**

Executive Support Systems

- Senior managers use executive support systems (ESS) to help them make decisions. ESS serve the strategic level of the organization.

- They address no routine decisions requiring judgment, evaluation, and insight because there is no agreed-on procedure for arriving at a solution.

ESS

- ESS are designed to incorporate data about external events, such as new tax laws or competitors, but they also draw summarized information from internal MIS and DSS. They filter, compress, and track critical data, displaying the data of greatest importance to senior managers.
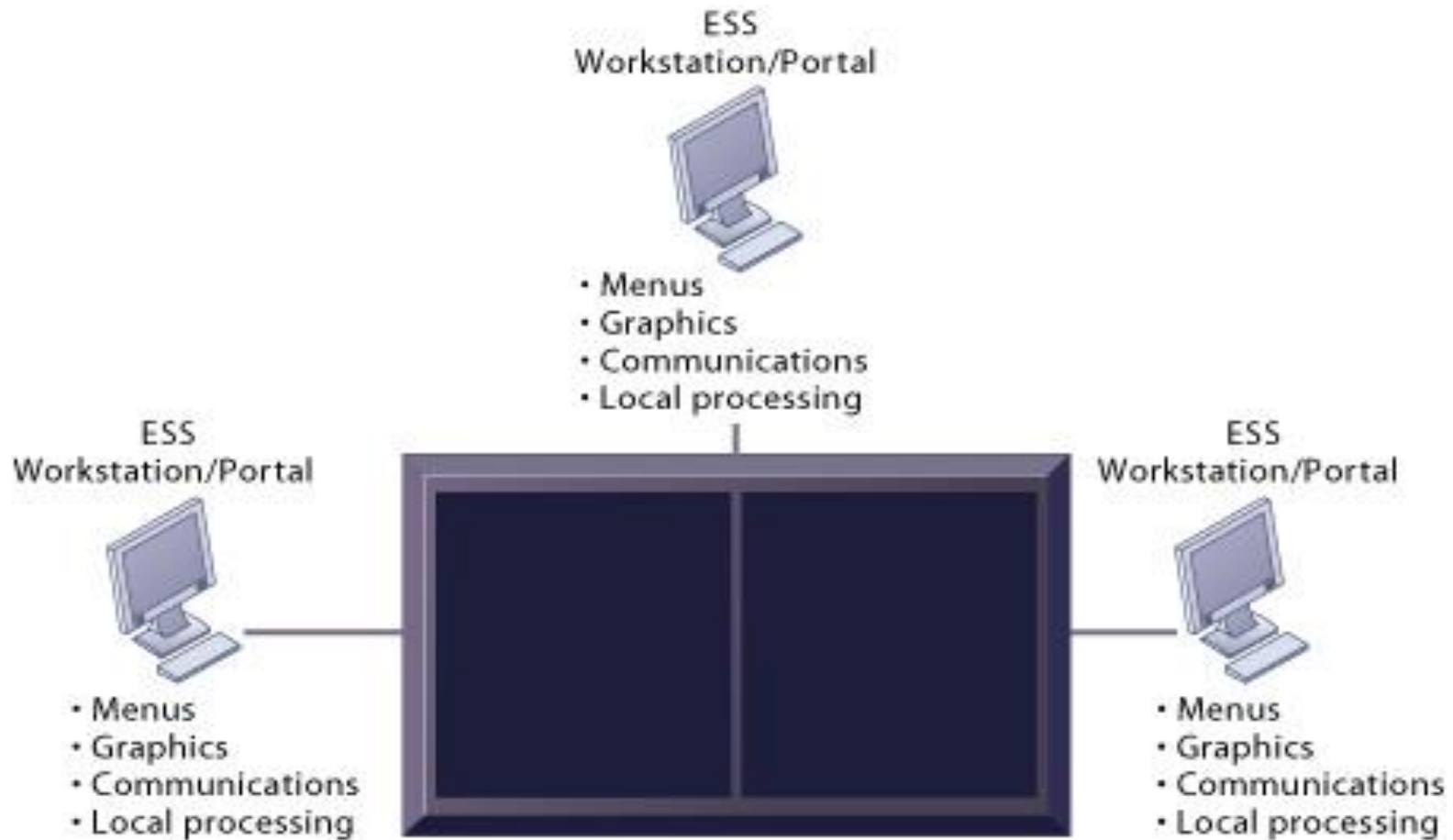
ESS

- For example, the CEO of Leiner Health Products, the largest manufacturer of private-label vitamins and supplements in the United States, has an ESS that provides on his desktop a minute-to-minute view of the firm's financial performance as measured by working capital, accounts receivable, accounts payable, cash flow, and inventory.
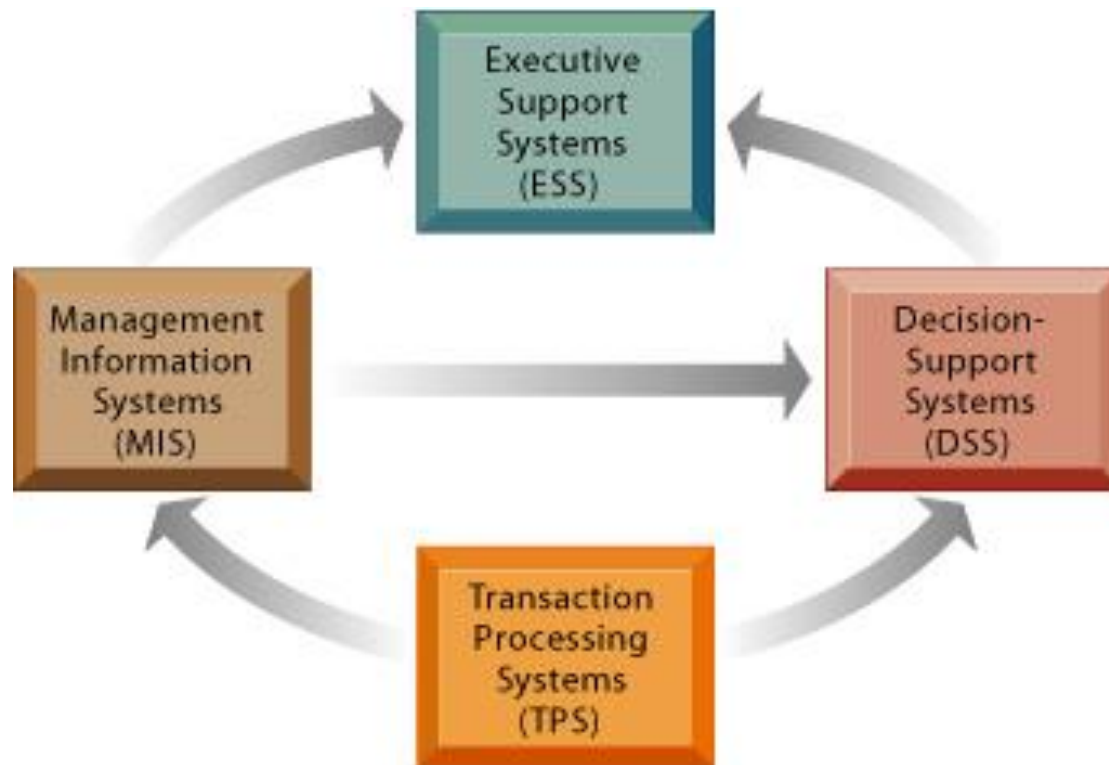
DSS

- In what business should we be?

- What are the competitors doing?

DSS – Fig

Interrelationship

Office Information System

- Office Information System is an information system that uses hardware, software, and networks to enhance workflow and better communication between employees. Office automation refers to the application of computer and communication technology to office functions.

Business Expert System

- The business expert system is a knowledge-based information system that uses its knowledge about a specific, complex application area to act as an expert. This system is one of the knowledge-based information systems.

- The expert system provides decision support to managers in the form of advice from an expert in a specific problem area. Expert systems find application in diverse areas, ranging from medical, engineering, and business.